

PROCEEDINGS OF THE  
ROYAL ENTOMOLOGICAL SOCIETY  
OF LONDON

SERIES C. JOURNAL OF MEETINGS

VOLUME 8.

No. 1, 1943.

ANNUAL MEETING

20TH JANUARY, 1943, at 3.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the General Meeting held on 2nd December, 1942.
2. Recommendations of candidates for Fellowship.
3. Announcement of election of new Fellows.
4. Announcement of election of Officers and Council for 1943.
5. The following additions have been made to the Library since the meeting on 4th November, 1942.

*Presented.*

Trimoulet, M. H. : Catalogue des Lépidoptères de la Gironde. [*Actes Soc. Linn. Bordeaux* 22, 1858]. [Mr. R. L. E. Ford.]

Frost, S.W. : *General Entomology*. New York, 1942.

Burns Brown, W., and Higgins, A. E. H. : *The control of insects infesting dried fruits*. Dept. of Scientific and Industrial Research, 1942.

Little, V. A., and Martin, D. F. : *The cotton insects of the United States*. Minneapolis, 1942.

Kirby, W. E. : *Insects : foes and friends*. London, 1898. [Mr. R. L. E. Ford.]

Gordon, W. J. : *Our country's butterflies and moths*. London. n.d.

In addition separates have been presented by Mr. G. S. Kloet, Mr. W. P. Comstock, Fleet-Paymaster T. Bainbrigge Fletcher, R.N., the U.S. Department of Agriculture, the American Entomological Society, Dr. A. M. Massee, Prof. G. D. Hale Carpenter, and Dr. G. A. Waterhouse.

6. Council's Report.
7. Treasurer's Report and Balance Sheet.
8. President's Remarks.
9. Vote of thanks to the Officers.

Tea will be served in the Library after the meeting.

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PROCEEDINGS OF THE GENERAL MEETING HELD ON 2ND DECEMBER, 1942.

Professor P. A. BUXTON, President, in the Chair.

Present, 59 Fellows and 43 Visitors.

The minutes of the meeting held on 4th November were confirmed and signed by the President.

The Secretary read for the second time the nominations for Officers and Council for 1943.

The Secretary read the name of the following new candidate for election : J. L. Williams.

The President exhibited an original portrait of the Rev. William Kirby, first Honorary Life President of the Society, which had recently been purchased and added to the Society's collection of portraits.

The meeting took the form of a joint discussion on

#### **Methods of Study of Wild Populations**

with members of the Genetical Society.

Professor R. A. Fisher gave an account of a method of estimating the numbers of a wild population, recently used by Jackson in Tsetse fly work with considerable success, based upon the capture, marking and liberation of a known number of individuals, and the later recapture of random samples. From a series of such observations made at regular intervals the volume of population variation due to new emergences and immigration and to death and movement out of the area could also be estimated. Sampling methods employed at Rothamsted over a period of years were described by Dr. C. B. Williams, by reference to his own light-trap experience and direct collecting methods employed by Dr. H. F. Barnes during a period of fourteen years work on wheat midges. Dr. Williams also described a new method developed by Dr. R. A. Fisher and himself for studying the relative abundance of different species in a mixed wild population; given the number of individuals and species in a random sample it was claimed that the relative frequency of all the species in the area could be calculated, also the composition of larger or smaller samples and an index of the diversity of the species. Calculated results had been found to agree very closely with those obtained by direct observation. Dr. George Salt discussed the effects upon the sizes of populations of three factors, namely their density, the amount of competition for food, and the condition of the medium, illustrating his remarks by reference to laboratory experiments with larvae of *Lucilia* and with parasitic insects. A short note from Dr. Ll. Lloyd on a similar study of the effect of environment and competition for food was read by the President; the illustrations were drawn from observations on the fluctuations of populations of Psychodid and Chironomid midges and an enchytraeid worm in sewage beds. He traced also the interplay of these factors between the different species.

In the discussion which followed Dr. U. Phillip pointed out that the larvae of the CHIRONOMIDAE provided very suitable material for the study of structural hybridity on account of their large salivary gland chromosomes, and that information about the finer structure of free living populations of this kind, even such as might inhabit a single water-butt, may be obtained by studying their genetical and cytological variability. She feared, however, that methods of collecting and of statistical evaluation of results in this field were not yet sufficiently refined. Professor J. B. S. Haldane called attention to the importance of studying genetic polymorphism in wild populations, since by this means it was possible to estimate roughly the order of magnitude of an interbreeding population. Mr. E. B. Ford described the history of a colony of *Melitaea aurinia* in which in a population of fluctuating size a correlation was found to exist between numbers and variability. The incidence of melanism in Lepidoptera was referred to by Dr. E. A. Cockayne, especially in respect of its occurrence in species present in the neighbourhood of industrial areas. Dr. Ripper, speaking of the practical uses of methods of estimating populations, expressed his belief that they could with advantage be applied in relation to the control of insect pests of crops. In summing up the discussion Professor Buxton stressed the need for a review of present methods of estimating sizes of wild population, not only on account of the scientific interest of the subject, but also because of its great importance in so many economic and medical entomological problems.

N. D. RILEY, *Hon. Secretary.*



## NOTICES

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### ADMISSION OF FELLOWS

Any Fellow who has not been formally admitted to the Society under Chapter XIV, Section 4 of the Bye-Laws and attends the meeting on 20th January, 1943, is requested to inform the Registrar before 3.15 p.m. on that date.

THE GENERIC NAMES OF BRITISH INSECTS, prepared by the Committee on Generic Nomenclature of the Royal Entomological Society of London, with the assistance of the Department of Entomology of the British Museum (Natural History) :

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|---------|---|----------------|
| Part 1. | Recommendations relating to the publication of the committee's reports . . . . .                  | price 6d.      |
| Part 2. | The generic names of the British Rhopalocera with a check list of the species . . . . .           | price 3s. 6d.  |
| Part 3. | The generic names of the British Odonata with a check list of the species . . . . .               | price 3s. 6d.  |
| Part 4. | The generic names of the British Neuroptera, with a check list of the British species . . . . .   | price 3s. 6d.  |
| Part 5. | The generic names of the British Hymenoptera Aculeata, with a check list of the British species   | price 15s. 0d. |
| Part 6. | The generic names of the British CARABIDÆ, with a check list of the British species . . . . .     | price 10s. 0d. |
| Part 7. | The generic names of the British Hydradephaga, with a check list of the British species . . . . . | price 5s. 0d.  |

STYLOPS, a Journal of Taxonomic Entomology.

1932-1935. Vols. 1-4 (all issued). Price £1 16s. 0d. each; to Fellows, £1 7s. 0d.

ABSTRACT OF PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON. 1935. Nos. 1-6 (all issued). 3s. 0d.

HÜBNER : A BIBLIOGRAPHICAL AND SYSTEMATIC ACCOUNT OF THE ENTOMOLOGICAL WORKS OF JACOB HÜBNER AND THE SUPPLEMENTS THERETO. In 2 vols. By Francis Hemming.

Price Vol. 1. 605 pp. £1 15s. 0d.  
 ,, Vol. 2. 275 pp. 15s. 0d.

The next Meeting will be held on 3rd February, 1943, at 3.30 p.m.

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*Published by THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON and sold at its Rooms, 41, Queen's Gate, S.W.7, price 6d.*